

Docket No.: 24,954-122CIP
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Daniel G. Giddings et al.

Application No.: 10/705,570

Confirmation No.: 4241

Filed: November 10, 2003

Art Unit: 1792

For: Method and apparatus for cleaning fabrics, floor
coverings, and bare floor surfaces utilizing a soil
transfer cleaning medium

Examiner: J. M. Heckert

AMENDMENT

MS AFTER FINAL Amendments
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In response to the Office Action dated December 14, 2007, please amend the
above-identified U.S. patent application as follows:

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/JH/

AMENDMENTS TO THE CLAIMS

1. (canceled)

2. (canceled)

3. (currently amended) An automated method of removing soil from a surface intended to be cleaned by a movable machine having a revolving cleaning medium comprising:

wetting a portion of the revolving cleaning medium with a cleaning liquid;
revolving said previously wetted portion of the cleaning medium toward a vacuum extractor, said extractor having an elongated slot opening with an edge of the slot opening being in contact with the cleaning medium, said slot opening extending substantially across said previously wetted portion of the cleaning medium;
vacuum extracting some soil and some of the cleaning solution from said previously wetted portion of the revolving cleaning medium prior to said portion revolving into contact with the surface intended to be cleaned;
revolving said previously wetted portion of the cleaning medium away from contact with the slot opening and toward contact with the surface intended to be cleaned;
wiping the surface with said portion of the revolving cleaning medium previously vacuum extracted so as to transfer soil from the surface intended to be cleaned to the revolving cleaning medium; and
repeating said wetting, extracting and wiping during a cleaning procedure.

4. (previously amended) The method of claim 3 further comprising extracting soil and cleaning solution from the portion of the cleaning medium previously wiped against the surface intended to be clean prior to again wetting the same portion.

5. (currently amended) A method of removing soil from a surface intended to be cleaned using a movable machine, said method comprising:

moving the movable machine across the surface while repeatedly:
wetting a portion of a revolving cleaning medium with a cleaning liquid;
revolving said wetted portion of the cleaning medium into contact with an edge of a slot opening of a vacuum extractor;
with said vacuum extractor, vacuum extracting soil and cleaning liquid from said portion of the revolving cleaning medium through said slot opening prior to said portion revolving into contact with the surface to be cleaned;
revolving said wetted portion of the cleaning medium out of contact with said slot opening and toward contact with said surface to be cleaned; and
wiping the surface with said portion of the revolving cleaning medium so as to transfer soil from the surface intended to be cleaned to the cleaning medium.

6. (previously amended) The method of claim 5 wherein said wetting the portion of the revolving cleaning medium includes spraying cleaning liquid onto the cleaning medium from a nozzle, said cleaning medium capturing substantially all of a spray output of the nozzle.

7. (Canceled)

8. (previously amended) The method of claim 5 wherein the cleaning medium includes at least one elongated generally cylindrical shaped element rotating generally about an axis of rotation, with said slot opening being generally parallel to said axis of rotation.

9. (Original) The method of claim 8 wherein the cleaning medium includes a pair of elongated generally cylindrical shaped elements which are counter-rotated relative to each other, and wherein said axis of rotation is generally parallel with the surface intended to be cleaned.
10. (previously amended) The method of claim 9 wherein said extracting is achieved through a pair of vacuum apertures, each of said pair of vacuum apertures being associated with a different one of the counter-rotated elongated generally cylindrical shaped elements.
11. (Original) The method of claim 8 wherein the axis of rotation is aligned in a direction generally transverse to an operational direction of device movement across the surface.
12. (previously amended) The method of claim 5 wherein the surface is a carpet surface, and wherein wiping the surface transfers soil from fibers of the carpet surface to the cleaning medium.
13. (previously amended) The method of claim 5 wherein the surface is a fabric surface, and wherein wiping the surface transfers soil from fibers of the fabric surface to the cleaning medium.
14. (Original) The method of claim 5 wherein the movable machine includes at least one drip guard in contact with at least a portion of the cleaning medium for redirecting cleaning solution within a cleaning head toward the cleaning medium.
15. (currently amended) A method of cleaning a carpeted surface, said method being performed by a surface maintenance machine and comprising:

spraying a portion of a revolving cleaning medium with a cleaning liquid;
removing some soil and some of the cleaning liquid from the previously wetted portion of the cleaning medium using a vacuum device having a slot opening with an edge of said slot opening being in contact with said cleaning medium, said removing drawing soil and cleaning liquid through said slot opening and occurring prior to said portion revolving into contact with the carpet surface;
wiping the carpeted surface with the portion of the revolving cleaning medium so as to transfer soil from the carpeted surface to the cleaning medium; and
repeating said spraying, removing, and wiping the carpeted surface during a carpet cleaning procedure.

16. (previously amended) The method of claim 15 wherein spraying involves pumping a cleaning liquid from a reservoir carried by the surface maintenance machine through a nozzle, said nozzle spraying substantially all of its spray output directly onto the cleaning medium, with said cleaning medium being positioned between the nozzle and the surface intended to be cleaned .

17. (Canceled)

18. (previously amended) The method of claim 16 wherein said wiping involves rotating a cylindrical cleaning medium in contact with the carpeted surface, and said vacuum extractor slot extending substantially along across the cylindrical cleaning medium, with said vacuum extractor slot being positioned between said nozzle and said surface intended to be cleaned.

19. (previously amended) The method of claim 18 wherein the cylindrical cleaning medium is rotated about an axis which is generally perpendicular to a direction of machine use, and said vacuum extractor slot includes a pair of generally parallel walls, with ends of said pair of walls being in contact with the cylindrical cleaning medium.

20. (Original) The method of claim 15 wherein the surface maintenance machine either a self-propelled machine or a non-propelled machine.

21. (Original) The method of claim 15 wherein the movable machine includes at least one drip guard in contact with at least a portion of the cleaning medium for redirecting cleaning solution within a cleaning head toward the cleaning medium.

22. (currently amended) A method of cleaning a carpeted surface, said method being performed by a surface maintenance machine and comprising:

- spraying a portion of a revolving cleaning medium with a cleaning liquid;
- revolving said portion of the cleaning medium toward contact with a vacuum extractor;
- removing some soil and some of the cleaning liquid from the previously wetted portion of the cleaning medium using said vacuum extractor, said vacuum extractor having a slot opening with an edge of said slot opening being in contact with the previously wetted portion of the cleaning medium, and said slot opening having a slot width which is substantially smaller than a diameter of a vacuum conduit coupled to said extractor, said removing occurring prior to said portion revolving into contact with the carpeted surface;
- revolving said portion of the cleaning medium away from contact with the vacuum extractor and toward contact with the carpeted surface;

wiping the carpeted surface with the portion of the revolving cleaning medium so as to transfer soil from the carpeted surface to the cleaning medium, said wiping causing an amount of cleaning liquid to be thrown from the cleaning medium into contact with interior surfaces of a cleaning head; and redirecting the amount of cleaning liquid thrown from the cleaning medium back toward the cleaning medium so as to minimize the dropping of large droplets of cleaning solution onto the carpeted surface.

REMARKS:

I. General

Claims 3-6, 8-16 and 18 - 22 are pending in the application. The issues in the Office Action mailed December 14, 2007 are as follows:

- Claims 1-6, 8-13, 15-16, 20 are rejected under 35 U.S.C. § 102(b) as being anticipated by Satoh.
- Claims 9-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Satoh in view of Bessel.
- Claims 14, 21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Satoh in view of Miner et al.
- Claim 19 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Satoh in view of Beauchamp or Hekman.
- Claim 22 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Satoh in view of Beauchamp or Hekman and further in view of Minor.

Applicant hereby traverses the outstanding rejections and objections and requests reconsideration and withdrawal in light of the remarks and amendments contained herein.

- II. Claims 1-6, 8-13, 15-16, 20 are rejected under 35 U.S.C. § 102(b) as being anticipated by Satoh.

Claims 1-6, 8-13, 15-16, 20 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Satoh.

To anticipate a claim, the reference must teach every element of the claim. “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegall Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in the ...claim.” *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Therefore all claim elements, and their limitations, must be found in the prior art reference to maintain a rejection based on 35 U.S.C. 102.

Claims 3-4 include limitations of an extractor having an elongated slot opening with an edge of the slot opening *being in contact with the cleaning medium*. Additionally, claims 3-4 include limitations of revolving the wetted portion of the cleaning medium away *from contact with the slot opening* and toward contact with the surface intended to be cleaned. The device of Satoh is incapable of performing such a method as an edge of vacuum extractor 6 *is not in contact with the cleaning medium*. Additionally, Satoh does not disclose revolving the wetted portion of the cleaning medium away *from contact with an edge of the slot opening* and toward contact with the surface intended to be cleaned.

Claims 8 and 11-13 are directed to methods wherein a given portion of the cleaning medium is wetted, *revolved into contact with an edge of a slot opening of a vacuum extractor*, vacuum extracted using the extractor, *revolved out of contact with the extractor*, and then wiped against the surface to be cleaned. The device of Satoh is incapable of performing such a method as no edge of vacuum extractor 6 *is revolved into and out of contact with the cleaning medium*. .

Claims 15-16, 18 and 20 are directed to a method wherein a given portion of the cleaning medium is wetted, *revolved into contact with an edge of the slot opening of a vacuum extractor*, vacuum extracted through the slot opening of the extractor, and only then wiped against the surface to be cleaned. The device of Satoh is incapable of performing such a method as cleaning medium 2 is *not revolved into* and out of contact with an edge of slot opening of vacuum extractor 6.

As Satoh does not teach or suggest every limitation of claims 3-6, 8, 11-13, 18, 20, reconsideration of the rejection under 102(b) is requested.

III. Claims 9-10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Satoh in view of Besel.

It is submitted that the combination of Satoh and Besel, even if proper, would fail to yield all limitations of the present invention. In particular, neither Satoh nor Besel teaches or suggests all claim limitations. Claims 9-10 are directed to methods wherein a given portion of the cleaning medium is wetted, *revolved into contact with an edge of a slot opening of a vacuum extractor*, vacuum extracted using the extractor, *revolved out of contact with the extractor*, and then wiped against the surface to be cleaned. The device of Satoh is incapable of performing such a method as an edge of vacuum extractor 6 is *not revolved into and out of contact with the cleaning medium*.

As the combination of Satoh and Besel does not teach or suggest the limitations of claims 9-10, reconsideration of the rejection under 103(a) is requested.

IV. Claims 14, 21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Satoh in view of Miner et al.

It is submitted that the combination of Satoh and Miner et al, even if proper, would fail to yield all limitations of the present invention.

Regarding claim 14, neither Satoh nor Miner et al. teaches or suggests all claim limitations. Claim 14 is directed to a method wherein a given portion of the cleaning medium is wetted, *revolved into contact with an edge of a slot opening of a vacuum extractor*, vacuum extracted using the extractor, and then wiped against the surface to be cleaned. The device of Satoh is incapable of performing such a method as an edge of vacuum extractor 6 *is not revolved into and out of contact with the cleaning medium*. As the combination of Satoh and Miner et al does not teach or suggest the limitations of claim 14, reconsideration of the rejection under 103(a) is requested.

Regarding claims 21, the combination of Satoh and Miner et al. fails to teach or suggest all claim limitations. Claim 21 is directed to a method wherein a given portion of the cleaning medium is wetted, *revolved into contact with an edge of a slot opening of a vacuum extractor*, vacuum extracted through the slot opening of the extractor, and only then wiped against the surface to be cleaned. The device of S5atoh is incapable of performing such a method as cleaning medium 2 *is not revolved into and out of contact with an edge of a slot opening of vacuum extractor 6*. As the combination of Satoh and Miner et al does not teach or suggest the limitations of claim 21, reconsideration of the rejection under 103(a) is requested.

V. Claim 19 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Satoh in view of Beauchamp or Hekman.

Claim 19 is directed to a method wherein a given portion of the cleaning medium is wetted, *revolved into contact with an edge of a slot opening of a vacuum extractor*, vacuum extracted through the slot opening of the extractor, and only then wiped against the surface to be cleaned. The combination of Satoh, Beauchamp or Hekman, even if proper, would fail to yield such a method as cleaning medium 2 *is not revolved into and out of contact with an edge of a slot opening of vacuum extractor 6*.

VI. Claim 22 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Satoh in view of Beauchamp or Hekman and further in view of Miner.

Claim 22 is directed to a method wherein a given portion of the cleaning medium is wetted, *revolved into contact with an edge of a slot opening of a vacuum extractor*, vacuum extracted through the slot opening of the extractor, and only then wiped against the surface to be cleaned. The combination of Satoh, Beauchamp or Hekman and Miner et al., even if proper, would fail to yield such a method as cleaning medium 2 is *not revolved into* and out of contact with an edge of a slot opening of vacuum extractor 6.

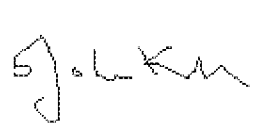
Conclusion

In view of the above amendment, Applicant believes the pending application is in condition for allowance.

Respectfully submitted,

March 12, 2008

By



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